**Algebra II – PRACTICE EXAM – Section 1**

**Directions:** Determine whether the relationships depicted are linear or exponential. Write the equation that models each relationship, and define your variables where indicated.

1. A baby has just started talking. She knows ten words, but the number of words in her vocabulary is doubling every month.

**Type of function: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Variables:** \_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Aaron is given $200 as a graduation gift. He spends an average of $35 per week.

**Type of function: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Variables:** \_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
|  |  |
| **11** | **20** |
| **12** | **23** |
| **13** | **26** |
| **14** | **29** |
| **15** | **32** |

**Type of function: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

|  |  |
| --- | --- |
|  |  |
| **-1** | **1** |
| **0** | **2** |
| **1** | **3** |
| **2** | **4.5** |
| **3** | **6.75** |

**Type of function: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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**Final Exam Practice – Section 1**

**What Kind of Function?**

#1. A library has 450 books in it and is adding 15 books each day.

Type of Function: \_\_\_\_\_\_\_\_\_\_\_\_\_ Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Variables: \_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

#2. A population of field mice starts with 10 mice but the population is doubling in size each month.

Type of Function: \_\_\_\_\_\_\_\_\_\_\_\_\_ Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Variables: \_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

#3. A little known singer has 250 Instagram followers. She starts to become more and more famous and the number of her followers triples every month.

Type of Function: \_\_\_\_\_\_\_\_\_\_\_\_\_ Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Variables: \_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

#4. A little known singer has 250 Instagram followers. She starts to become more and more famous and the number of her followers goes up by 500 each month.

Type of Function: \_\_\_\_\_\_\_\_\_\_\_\_\_ Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Variables: \_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

#5. You start a wedding photo booth business and charge customers a 50 flat fee and $25 per hour for your booth.

Type of Function: \_\_\_\_\_\_\_\_\_\_\_\_\_ Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Variables: \_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

#6. You invest $200 in a start-up company. All of a sudden the company becomes famous and your investment doubles in value every year.

Type of Function: \_\_\_\_\_\_\_\_\_\_\_\_\_ Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Variables: \_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Write the equation that matches each input-output table.

|  |  |
| --- | --- |
|  |  |
| **2** | **5** |
| **3** | **1** |
| **4** | **-3** |
| **5** | **-7** |
| **6** | **-11** |

|  |  |
| --- | --- |
|  |  |
| **-1** | **2.66** |
| **0** | **4** |
| **1** | **6** |
| **2** | **9** |
| **3** | **13.5** |

**Equation: Equation:**

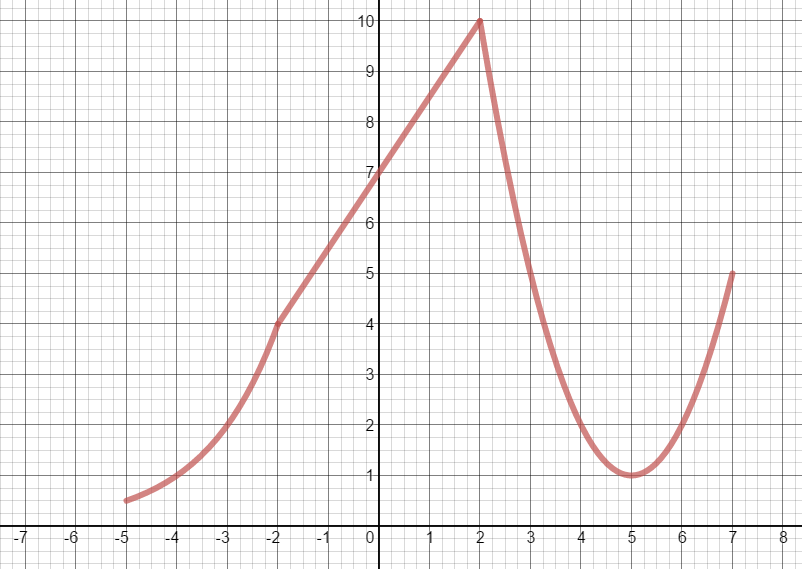
|  |  |
| --- | --- |
|  |  |
| **5** | **16** |
| **6** | **13** |
| **7** | **12** |
| **8** | **13** |
| **9** | **16** |

|  |  |
| --- | --- |
|  |  |
| **-5** | **0** |
| **-4** | **2** |
| **-3** | **4** |
| **-2** | **6** |
| **-1** | **8** |

**Equation: Equation:**

**Algebra II – PRACTICE EXAM – Section 2**

**Directions for questions 7 – 13:** Below is the graph of . Use the graph to answer the questions that follow.



1. Is the graph a function? Explain how you know.

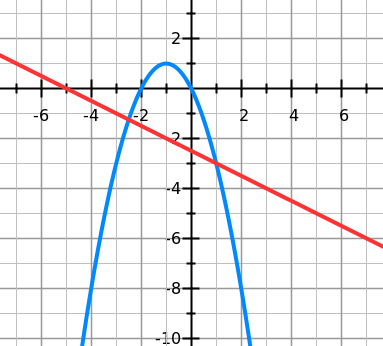
\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

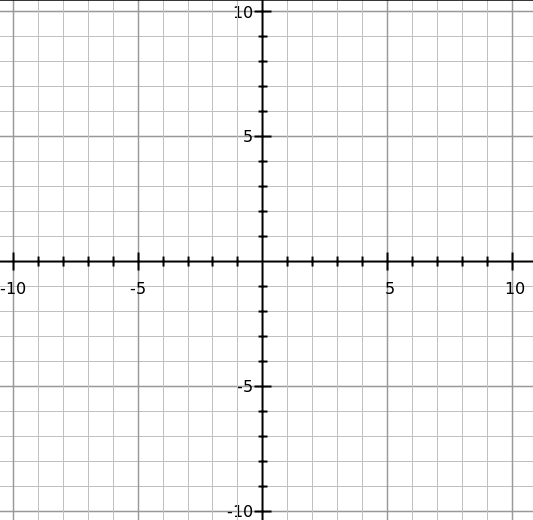
\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What is the domain of ? Use inequality or interval notation.
2. What is the range of ? Use inequality or interval notation.
3. Evaluate: = \_\_\_\_\_\_\_\_\_.
4. Evaluate: = 5 when *x*  = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
5. True or false? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Directions:** Use the graphs of *f(x)* and *g(x)* below to answer the following three questions.



1. \_\_\_\_\_\_\_
2. True or False?
3. Which is greater, or ?
4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Use the coordinate plane below to sketch a function with the following domain and range.

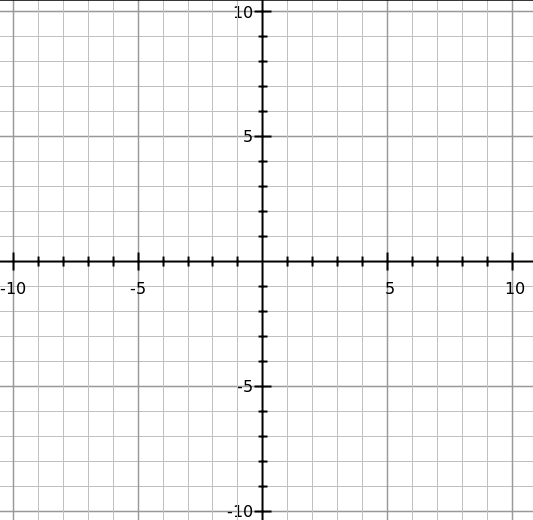
**Domain:**

**Range:**

**Algebra II Name:**

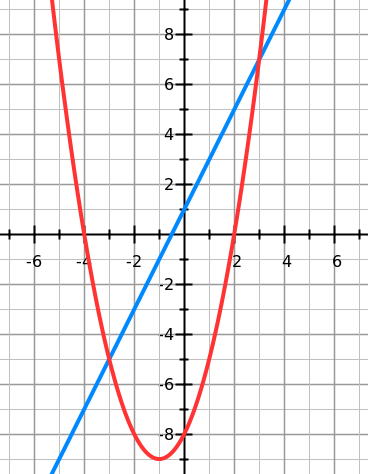
**Mr. Stiff Date:**

**Final Exam Practice – Section 2**



1. Evaluate:
2. Evaluate:
3. Evaluate: when \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Evaluate: when \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Evaluate:

**Practice:**



***g(x)***

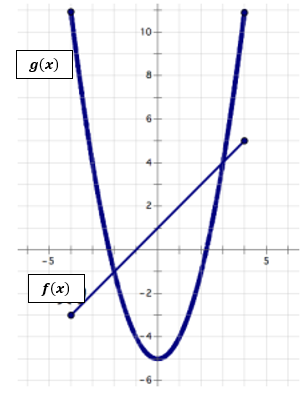
* 1. \_\_\_\_\_\_\_
  2. \_\_\_\_\_\_\_
  3. when *x* = \_\_\_\_\_\_\_
  4. when *x* = \_\_\_\_\_\_\_
  5. \_\_\_\_\_\_\_
  6. True or False? \_\_\_\_\_\_\_\_\_\_\_\_\_
  7. when

***f(x)***

*x* = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Below are the graphs of *f(x)* and *g(x)*. Answer the questions that follow in relation to the graphs.

1. True or False?



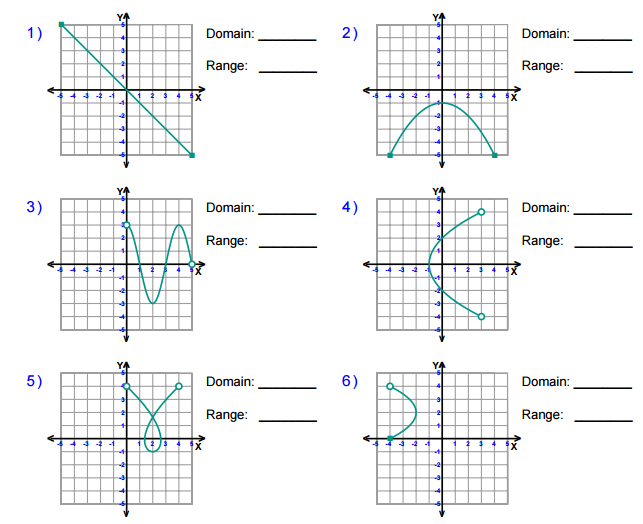
1. Evaluate:
2. True or False? ? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Evaluate: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Evalue:

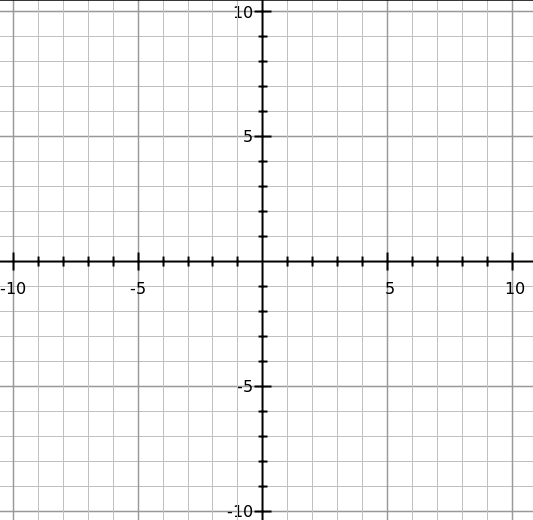
**Domain and Range**

Domain: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Range: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| **Graph** | **Domain and Range** |
|  | **Domain:**  **Range:** |
|  | **Domain:**  **Range:** |
|  | **Domain:**  **Range:** |



Use the coordinate plane below to sketch a function with the following domain and range.

**Domain:**

**Range:**

**Algebra II – PRACTICE EXAM – Section 3**

1. Draw a line **with a slope that is NOT zero** on the coordinate plane below and write its equation in the space provided.



Write the equation of your line:

**Equation:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. On the same coordinate plane, draw a line that is parallel to your line and passes through the point (2, 3).

Write the equation of the second line. **Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. Explain how you know that the two lines are parallel.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Algebra II Name:**

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**Final Exam Practice – Section 3**

1. Draw a line **with a slope that is NOT zero** on the coordinate plane below and write its equation in the space provided.



Write the equation of your line:

**Equation:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. On the same coordinate plane, draw a line that is parallel to your line and passes through the point (4, 5).

Write the equation of the second line. **Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. Explain how you know that the two lines are parallel.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Algebra II – PRACTICE EXAM – Section 4**

1. Write the equation of the line that passes through the points (1, 5) and (4, -1).

**Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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**Final Exam Practice – Section 4**

1. Write the equation of the line that passes through the points (2, -5) and (-1, -8).
2. Write the equation of the line that passes through the points (-4, 6) and (-2, 0).

**Algebra II – PRACTICE EXAM – Section 5**

1. You hire a taxi that charges a flat pick-up fee and a rate per mile. After the first three-mile stretch, you owe $6.95. After the full journey of eleven miles, you owe a total of $12.15

.

1. Write an equation that shows the total cost of your trip as a function of the number of miles you ride.
2. At this rate, how much would it cost to take a 15 mile trip?

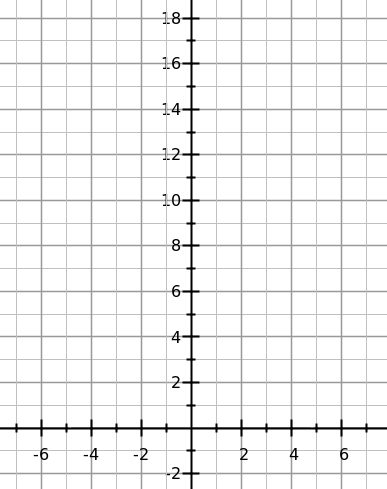
**Algebra II Name:**

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**Final Exam Practice – Section 5**

1. You buy a phone card to make international calls. After three minutes of talking, you have $29.58 remaining on your card. After twenty minutes of talking, you have $27.80 remaining on your card.
   1. Write an equation that shows the money remaining on your card as a function of the number of minutes you talk.
   2. At this rate, how much money will you have left on your card after talking for an hour?

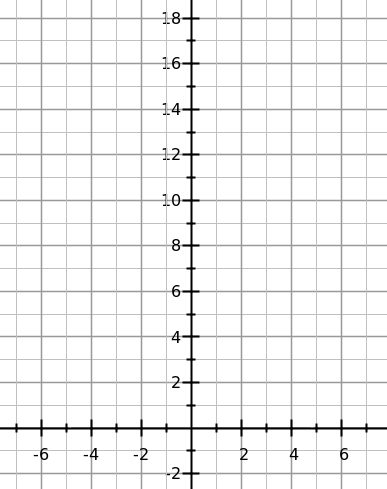
**Algebra II – PRACTICE EXAM – Section 6**



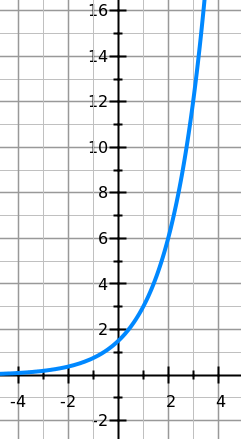
1. Complete the input-output table and graph:

|  |  |
| --- | --- |
|  |  |
| **-3** |  |
| **-2** |  |
| **-1** |  |
| **0** |  |
| **1** |  |
| **2** |  |
| **3** |  |

1. Graph:



1. Write the function equation shown by the following graph:



**Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

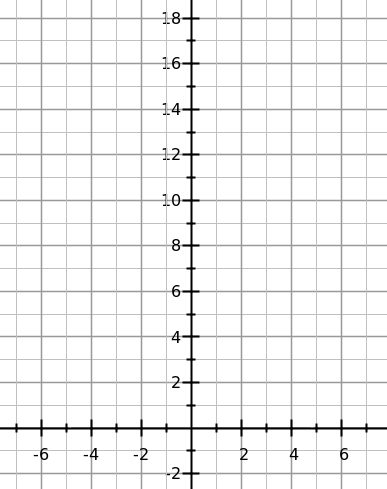
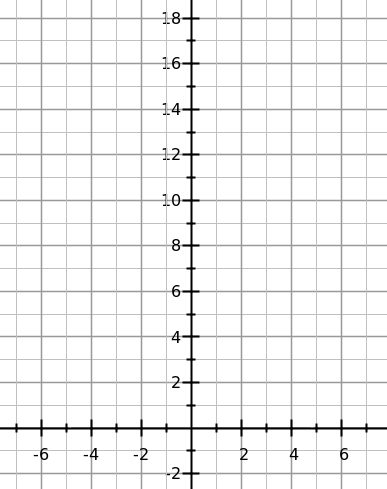
1. You bought your first home for $225,000 and its value has grown by 1.2% each month since then. How much will your home be worth in 4 years?
2. A scientist is testing a new medicine on two bacteria populations. Population A started with 1,000 bacteria cells but the medicine is causing the number of cells to decrease by 3.1% every day. Population B started with 4,000 bacteria cells but the medicine is causing the number of cells to decrease by 275 each day.
3. Write an equation for the number of bacteria cells in Population A after *x* days.
4. Write an equation for the number of bacteria cells in Population B after *x* days.
5. If the test is ten days long, which bacteria population will have more cells remaining at the end of the test?

**Algebra II Name:**

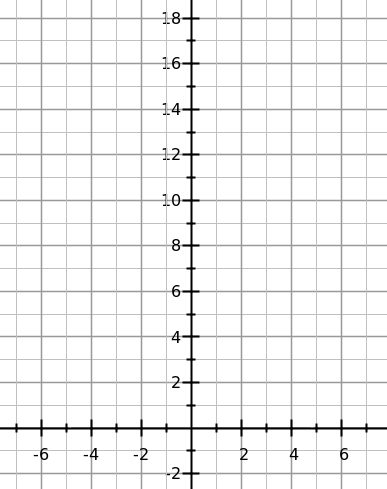
**Mr. Stiff Date:**

**Final Exam Practice – Section 6**

1. Graph: 2. Graph:



1. Complete the input-output table and graph:



|  |  |
| --- | --- |
|  |  |
| **-3** |  |
| **-2** |  |
| **-1** |  |
| **0** |  |
| **1** |  |
| **2** |  |
| **3** |  |

1. You buy a home for $215,000, and it’s value increases by 0.9% every month. How much will it be worth in 2 years?
2. The buffalo population in the wild was 350,000 in 1996. However, it’s been decreasing by 1.8% every year since then. How many buffalo are there now? (Round to the nearest buffalo).
3. Write the equation for the following functions.

|  |  |
| --- | --- |
| Equation:  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Equation:  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

1. Two schools are experiencing different population growth changes. At the start of 2012, Bethune High School had 1,250 students and Alvaro High School had 820 students. Since 2012, however, Bethune’s population has dropped by 3.5% each year while Alvaro’s population has grown by 4.1% each year.
   1. Which school had more students at the start of 2016? Show your work and **box** your final answer.

**Algebra II – PRACTICE EXAM – Section 7**

1. Graph:
2. Graph:
3. Graph:



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**Final Exam Practice – Section 7**

1. Graph the following functions. Show any work in the space provided.

|  |
| --- |
|  |

|  |
| --- |
|  |

|  |
| --- |
|  |

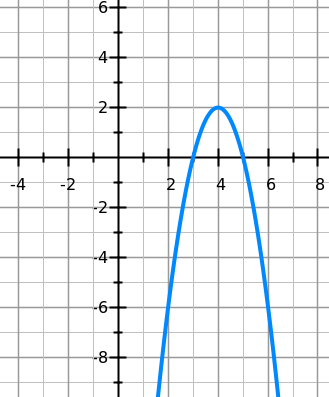
**Algebra II – PRACTICE EXAM – Section 8**

1. Draw the graph and write the equation of a parabola that opens up, is skinnier than the parent quadratic function, and has no *x*-intercepts.



**Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. Write the vertex form, factored form, and standard form equation for the following graph:



**Vertex Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Factored Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Standard Form: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. Write the equation for a parabola with a vertex at (1, 4) and its right arm passes through the point (5, 2).
2. Write the equation for the parent parabola shifted to the right by two units and down by six units.
3. How many zeroes will the parabola have?
4. Identify the zeroes for the parabola
5. Identify the zeroes for the parabola

**Algebra II Name:**

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**Final Exam Practice – Section 8**

1. Draw the graph and write the equation of a parabola that opens down, is skinnier than the parent quadratic function, and has one *x*-intercept.



**Equation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. Write all three forms of the equation for this parabola

|  |  |
| --- | --- |
|  | **Vertex Form:**  **Factored Form:**  **Standard Form:** |

1. Write the equation for a parabola with a vertex at (2, 5) and its right arm passes through the point (6, 7).
2. Write the equation for the parent parabola shifted to the right by eight units and down by three units, and opens up twice as quickly.
3. How many zeroes will the parabola have?
4. Identify the zeroes for the parabola
5. Identify the zeroes for the parabola

**Algebra II – PRACTICE EXAM – Section 9**

1. Distribute and write in standard form:
2. Distribute and write in standard form:
3. Factor completely:
4. Factor completely:
5. Factor completely:
6. Factor completely:
7. Factor completely:

**Algebra II Name:**

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**Final Exam Practice – Section 9**

1. Factor completely:
2. Factor completely:
3. Factor completely:
4. Factor completely:
5. Factor completely:
6. Factor completely:
7. Factor completely:

Expand, simplify, and write in standard form.

**Algebra II – PRACTICE EXAM – Section 10**

1. Solve:
2. Solve:
3. Solve:

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**Final Exam Practice – Section 10**

1. Solve:
2. Solve:
3. Solve:
4. Solve:
5. Solve:
6. Solve:

**Algebra II – PRACTICE EXAM – Section 11**

1. Simplify:
2. Simplify:
3. Simplify:
4. Simplify:
5. Simplify:
6. Solve:
7. Write in exponent form:
8. Write in radical form:
9. Simplify:

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**Final Exam Practice – Section 11**

1. Simplify the following exponential expressions

|  |  |
| --- | --- |
| 1. x5y0 | 2. (5x4y)0 |
| 3. | 4. x2x5 |
| 5. | 6. |
| 7. (3x3)(4x8) | 8. 12a0 |

1. Simplify the following exponential expressions:

|  |
| --- |
| 1. |
| 2. |
| 3. |
| 4. |

1. Simplify the following radical expressions:

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |

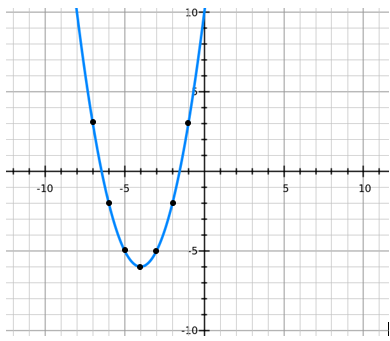
1. Write the following radicals in their exponential form:

1. Write the following exponential expressions in their radical form:

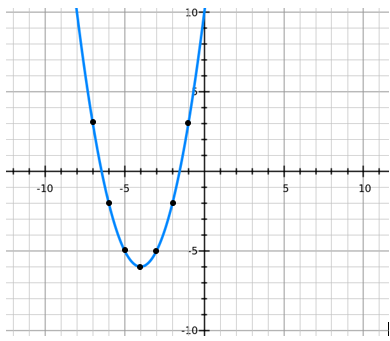
**Algebra II – PRACTICE EXAM – Section 12**

1. Each of the following shows the graph of . Graph the transformations shown.

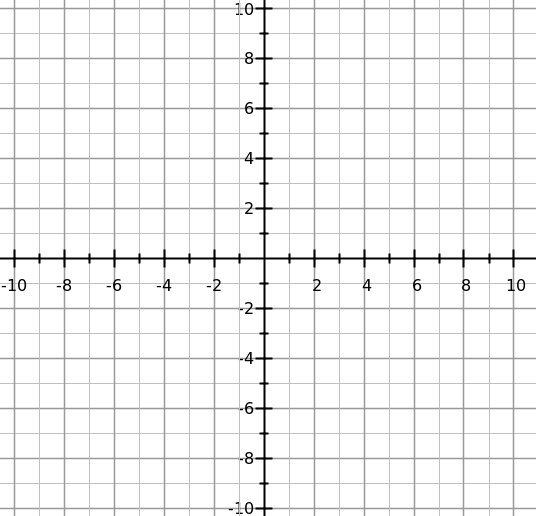
Transformation:



Transformation:



1. Sketch the graph of on the coordinate plane below. Then sketch and label the following transformations.



**Algebra II – PRACTICE EXAM – Section 13**

**Simplify the following rational expressions completely.**

1. 
2. 
3. 
4. 
5. 
6. 
7. 
8. 

**Algebra II – PRACTICE EXAM – Section 14**

**Graph the following piecewise functions.**

|  |  |
| --- | --- |
|  |  |

**Evaluate the specified values of the following piecewise functions:**

|  |  |
| --- | --- |
|  |  |

**Write the equation for the following piecewise functions**

|  |  |
| --- | --- |
|  |  |

**Evaluate using the following piecewise functions**

**Algebra II – PRACTICE EXAM – Section 15**

1. Is the inverse of ? Answer “yes” or “no” and show your work.
2. Is the inverse of ? Answer “yes” or “no” and show your work.
3. If , find
4. If , find
5. If , find
6. Write in exponential form:
7. Write in exponential form:
8. Write in exponential form:
9. Write in logarithm form:
10. Write in logarithm form:
11. Write in logarithm form:
12. Evaluate the following logarithms:
13. b. c.

d. e. f.

1. Use a calculator to evaluate:
2. b. c.
3. Determine the value of *x*.
4. b. c.
5. Condense the following logarithmic expression so that there is only one log used.
6. Condense the following logarithmic expression so that there is only one log used.
7. Expand the following logarithmic expression (use multiple logs).
8. Expand the following logarithmic expression (use multiple logs).
9. Solve:

1. Solve:
2. Solve:
3. Solve:
4. Simplify:
5. Evaluate: